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MAINE

OCCUPATIONAL

STAFFING PATTERN

For

HOSPITALS

Data for April 1980

BUREAU OF EMPLOYMENT SECURITY
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A BUREAU OF THE MAINE DEPARTMENT OF LABOR

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MAINE OCCUPATIONAL STAFFING PATTERN

FOR

HOSPITALS

APRIL 1980

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DIVISION OF ECONOMIC ANALYSIS AND RESEARCH
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PREFACE

We wish to express our thanks to all the hospitals which supplied the necessary occupational employment data on which the estimates presented herein are based, and to the Maine Department of Personnel for making their files available for this purpose. This publication would not have been possible without their cooperation.

We also wish to extend our thanks to the U.S. Department of Labor, both in Washington, D.C. and the regional level in Boston, Massachusetts, for their assistance in this federal-state cooperative effort.

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INTRODUCTION

This publication is one of a continuing number of reports covering occupational employment for selected industries in Maine. The information in these reports relates to the first part of a "State Comprehensive Manpower Information System" which was defined and mandated by the Manpower Development and Training Act in 1962, the Vocational Education Act of 1963 and as amended in 1968, the Comprehensive Employment and Training Act of 1973, and the Vocational Education Act Amendments of 1976. This federal legislation, coupled with the rapidly expanding public awareness of the need for more vocational training, has resulted in an unparalleled demand for current employment data and projections of future employment requirements by occupation.

The Occupational Employment Statistics (OES) Program has emerged as the system which is expected to supply much of the data leading to a "State Comprehensive Manpower Information System." This program is a federal-state endeavor involving many state employment security agencies throughout the nation in conjunction with the Employment and Training Administration and the Bureau of Labor Statistics. This OES program consists of three distinct, yet integral components: survey operations, industry-occupation matrices, and projections.

The first part of the OES program consists primarily of collecting occupational employment data by industry through a survey questionnaire mailed to a sample of establishments throughout the State. The sample data received is expanded, using a system of weights and benchmark factors, to produce statewide staffing patterns for the industry. These staffing patterns can then be applied to current or projected estimates of industrial employment to produce estimates of employment by occupation for the State or substate areas.

This publication, a direct result of the survey phase of the OES program, contains the staffing pattern for hospitals. The actual employment data was collected for the week of the 12th of April 1980.

Other booklets have already been published covering nearly all wage and salary workers in Maine. Approximately one-third of the State's industries will be surveyed each year, so that the entire economy will be covered every three years. Using this cycle, employers are asked to provide occupational data only once every three years. This insures that no part of the data is over three years old, and that significant changes in the staffing patterns of industries can be identified early, as the trend develops.

The information obtained from these surveys will be used in the second phase of the OES program to construct industry-occupation matrices covering all sectors of our economy. These matrices, in turn, will provide the data that will be used to project occupational requirements and will be one of the basic ingredients of the "Comprehensive Manpower Information System."

HOSPITALS

Private, state, and municipal hospitals are all included in this survey. The only exclusion is the U.S. Veterans Administration Hospital at Togus.

There were 20,060 workers employed in these hospitals in April 1980. Although there are 102 specific occupations identified in this report, over half of the total employment, 56 percent, is concentrated in just eight occupations. They are as follows:

Occupational Title	Employment	Percent of Total Employment
Nurse, Professional	4,170	20.8%
Nurse Aide and/or Orderly	2,400	12.0
Licensed Practical Nurse	1,760	8.8
Maid	940	4.7
Managers and Officers	640	3.2
Psychiatric Aide	510	2.5
Secretary	440	2.2
Kitchen Helper	410	2.0
TOTAL	11,270	56.2

At least 75 percent of all responding units reported employment in the following eleven occupations:

Occupational Title	Percent of usable units reporting the occupation
Licensed Practical Nurse	98%
Nurse Aide and/or Orderly	94
Nurse, Professional	94
Maid	92
Cook, Institution or Cafeteria	90
Managers and Officers	90
Pharmacist	81
Medical Laboratory Technologist	77
Medical-Record Librarian	77
Caseworker	75
Radiologic Technician	75

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	20,060	100.00	na	na
Managers and Officers	640	3.19	3	90
Professional Occupations	5,670	28.27	na	na
Mechanical Engineer	10	0.05	11	13
All Other Engineers	10	0.05	na	na
Medical Scientist	20	0.10	6	12
Psychologist	30	0.15	6	10
Systems Analyst, Electronic Data Processing	20	0.10	3	10
Purchasing Agent and/or Buyer	50	0.25	3	67
Accountant and/or Auditor	70	0.35	3	58
Caseworker	180	0.90	2	75
Clergy	20	0.10	8	21
Dentist	10	0.05	0	6
Dietitian and/or Nutritionist	50	0.25	3	58
Librarian, Professional	50	0.25	4	50
Nurse, Professional	4,170	20.79	1	94
Occupational Therapist	30	0.15	4	21
Personnel and/or Labor Relations Specialist	50	0.25	3	54
Pharmacist	110	0.55	2	81
Physical Therapist	110	0.55	3	71
Physician and/or Surgeon	350	1.74	2	50
Manual-Arts, Music and/or Recreational Therapist	10	0.05	6	13
Speech Pathologist and/or Audiologist	20	0.10	7	12
Respiratory Therapist	150	0.75	3	54
All Other Therapists	20	0.10	na	na
All Other Professional Workers	130	0.65	na	na
Technical Occupations	4,000	19.94	na	na
Computer Programmer	20	0.10	6	21
Electrical and/or Electronic Technician	20	0.10	4	12
Licensed Practical Nurse	1,760	8.77	1	98
Physician's Assistant	40	0.20	5	17
Surgical Technician	180	0.90	2	69
Radiologic Technician	310	1.55	3	75
Pharmacy Helper	140	0.70	2	60
Medical-Record Librarian	70	0.35	5	77
Dental Hygienist	10	0.05	4	10
Medical Laboratory Technologist	290	1.45	2	77
Biochemistry Technologist	80	0.40	6	17
Microbiology Technologist	40	0.20	3	21
Cytotechnologist	20	0.10	4	19
Histologic Technologist	30	0.15	13	17
Medical Laboratory Technician	270	1.35	4	63
Electrocardiograph Technician	90	0.45	5	54
Electroencephalograph Technician	10	0.05	4	12
Dietetic Technician	100	0.50	3	46

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Technical Occupations (cont.)				
Blood Bank Technology Specialist	90	0.45	3	29
Physical Therapy Assistant	80	0.40	5	65
Radiologic Technologist and/or Nuclear Medical Technologist	140	0.70	4	46
All Other Medical and Dental Technologists and Technicians	150	0.75	na	na
All Other Technical Workers	60	0.30	na	na
Service Occupations	5,870	29.26	na	na
Supervisor, Nonworking	90	0.45	2	44
Housekeeper	80	0.40	3	71
Maid	940	4.69	1	92
All Other Janitors, Porters, or Cleaners	250	1.25	3	54
Guard or Doorkeeper	40	0.20	7	25
Baker, Bread and/or Pastry	30	0.15	5	29
Dining Room or Cafeteria Attendant	80	0.40	8	23
Kitchen Helper	410	2.04	4	71
Counter Attendant, Lunchroom, Coffee Shop, or Cafeteria	120	0.60	3	35
Cook, Short Order and/or Specialty Fast Foods	20	0.10	2	12
Cook, Institution or Cafeteria	230	1.15	2	90
Pantry, Sandwich and/or Coffee Maker	20	0.10	5	15
All Other Food Service Workers	470	2.34	na	na
Nurse Aide and/or Orderly	2,400	11.96	2	94
Psychiatric Aide	510	2.54	6	17
Orthopedic-Cast Specialist	10	0.05	8	10
Social Service Aide	20	0.10	7	23
Medical Assistant	30	0.15	16	17
Occupational Therapy Assistant	10	0.05	8	12
All Other Service Workers	110	0.55	na	na
Maintenance and Production Occupations	860	4.29	na	na
Supervisor, Nonworking	80	0.40	3	25
Electromedical Equipment Repairer	10	0.05	7	13
Mechanic, Maintenance	40	0.20	2	12
Washer, Machine and/or Starcher	30	0.15	3	25
Laundry Presser, Machine	120	0.60	3	35
Truck Driver	20	0.10	7	15
Carpenter	50	0.25	3	38
Electrician	30	0.15	3	33
Maintenance Repairer, General Utility	150	0.75	4	71
Helper, Trades	10	0.05	7	13
Painter, Maintenance	30	0.15	3	25
Plumber and/or Pipefitter	20	0.10	5	23
Sewer, Custom	20	0.10	6	17
Stationary Boiler Firer	50	0.25	7	21
Stationary Engineer	30	0.15	6	23
Gardener and/or Groundskeeper	20	0.10	2	19

HOSPITALS (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occupations (cont.)				
Ambulance Driver and/or Attendant	30	0.15	6	6
All Other Skilled Craft and Kindred Workers	20	0.10	na	na
All Other Operatives and Semiskilled Workers	50	0.25	na	na
All Other Laborers and Unskilled Workers	50	0.25	na	na
Clerical Occupations	3,020	15.05	na	na
Clerical Supervisor, Office or Plant	80	0.40	3	40
Bookkeeping and/or Billing Machine Operator	50	0.25	9	25
Computer Operator	40	0.20	5	35
Keypunch Operator	50	0.25	3	27
All Other Office Machine Operators	10	0.05	na	na
Stenographer	240	1.20	4	46
Accounting Clerk	100	0.50	3	60
Bookkeeper, Hand	20	0.10	7	31
Cashier	110	0.55	1	58
File Clerk	160	0.80	4	60
General Clerk, Office	220	1.10	5	48
Library Assistant	20	0.10	6	13
Insurance Clerk, Medical	300	1.50	1	73
Order Clerk	20	0.10	3	13
Payroll and/or Timekeeping Clerk	50	0.25	3	58
Personnel Clerk	30	0.15	4	33
Procurement Clerk	20	0.10	4	25
Receptionist	140	0.70	4	48
Secretary	440	2.19	1	73
Statistical Clerk	40	0.20	2	25
Switchboard Operator	170	0.85	3	46
Switchboard Operator-Receptionist	120	0.60	6	42
Typist	150	0.75	6	37
All Other Office Clerical Workers	260	1.30	na	na
Shipping and/or Receiving Clerk	30	0.15	3	25
Stock Clerk, Stockroom, Warehouse, or Storage Yard	80	0.40	2	48
All Other Plant Clerical Workers	70	0.35	na	na

NOTES ABOUT THE TABLE

Estimated Employment

If only one or two establishments reported a particular occupation, the occupational estimate is not shown separately, but added to the appropriate "All Other" or residual category. The "TOTAL ALL OCCUPATIONS" estimate for each industry is based on a benchmark figure derived from the second quarter 1980 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law.

Percent of Total Employment

The detail in the column entitled "% of Total Empl." may not add to totals due to rounding.

Relative Error

The relative error was computed only for specific occupations and not for residual categories nor for occupational groupings. If the relative error of an occupation exceeded 50 percent, the employment for that occupation was added to the residual category that was relevant to it. The relative error relates to the actual estimate before rounding. For an example of how the relative error is applied, see Accuracy of Occupational Employment Data in the METHODOLOGY.

Percent of Establishments Reporting the Occupation

The percent of establishments reporting each occupation could not be readily calculated for groups of occupations, but only for specific occupations.

Abbreviations

na - not applicable
Empl. - Employment

METHODOLOGY

The Sample

The June 1979 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law was used as the sampling frame for the Occupational Employment Statistics (OES) Program's survey of hospitals. Except for the U.S. Veterans Administration Hospital at Togus, a federal hospital which was included in the survey of federal government, all hospitals employing more than three workers were included in this survey. This totaled 58 units employing a total of 19,673 employees.

The Survey

The survey consisted of an initial mailing and two follow-up mailings to nonrespondents. In addition, phone calls and personal visits were made to those employers whose responses were critical for valid estimates. Data for the state hospitals was taken from the "employee file" maintained by the State Department of Personnel. Usable responses were received from 52 units, or 90 percent of the total number of hospitals included in this survey. These responses represented 94 percent of the total employment in hospitals, or 18,588 workers.

The Screening, Editing, and Estimating Procedure

Each completed questionnaire returned was edited and screened both manually and mechanically for consistency and accuracy. The resulting "clean data file" served as the basis for calculating estimates. The "clean" employer questionnaires were separated into seven size groups, the size being determined by the number of persons employed by each. The data was then tied into the universe employment for the report month of April 1980. These universe, or benchmark, figures came from the second quarter 1980 ES-202 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law. The total survey data by size class was divided into the universe data for corresponding size classes. This produced benchmark factors which were applied to the occupational data, thus accounting for any nonresponding units, and any units not included in the sample. The occupational estimates were summed across size classes to the industry total and rounded to the nearest ten. The percent of occupational distribution was then calculated.

Accuracy of Occupational Employment Data

There are two types of errors which affect the accuracy of the estimates published here--sampling and nonsampling errors. Sampling error is a specific arithmetic measure of the precision of an estimate. It is the difference between the estimate computed from the sample data and the result that would be obtained if the same methods were used to collect identical information from the entire population or universe with no nonresponse. The relative error entries listed in this report are the sampling errors of each occupation expressed as a percent of that occupational estimate. In other words, relative error means that the chances are two out of three (a 68 percent confidence level) that the results of a comparable full-scale data collection (the universe) with

100 percent response, using the same survey approach would not differ by more than the percent error shown. The chances are 19 out of 20 (a 95 percent confidence level) that the results would not differ by more than twice the percent error shown. For example, it is estimated in this report that there are 310 radiologic technicians employed in hospitals with a 3 percent relative error. Thus, at a 68 percent confidence level, it is assured that the results of a full-scale count of radiologic technicians in this industry would not differ from this estimate by more than 9 workers (310 x .03). At a 95 percent confidence level, the universe count would not differ from the estimate by more than 6 percent of 310, or 19 workers.

The nonsampling error results from external factors in a survey rather than from the fact that a sampling technique was used. Examples of these errors are: response errors, processing errors, computational errors, etc. The possibility of these errors was recognized from the start of the survey and every effort was made to avoid them.

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The perceptual movement of the figure illustrates the two facets of research. Viewed one way, the four small arrows pointing to the central square represent the varied inputs to a research project. Viewed another way, the four large arrows pointing outward represent the widespread dissemination of the results of research.

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